



Pharmaceutical Approaches to Stuttering

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Definition

- The use of different medications to reduce primary and secondary behaviors of stuttering.

Drug Trial: Alprazolam and Citalopram

- Alprazolam-antianxiety
- Citalopram-antidepressant
- **Study** (by: John Paul Brady, M.D. and Zahir Ali, M.D.)
 - 57 year old physician with a severe stutter at the age of 4
 - Previous Therapy/medications
 - minimal improvement in speech
 - Implemented Alprazolam (1 mg/twice a week) and Citalopram (10 mg/bedtime)
 - Initial Stuttering Rating Scale: 6 on 7 point scale (severe)

Drug Trial: Alprazolam and Citalopram

○ Results

- Prompt and dramatic response
- Showed minimal signs of stuttering
- Family, friends, and colleagues remarked on his increased fluency
- Now speaks in situations that were originally fearful
- Stuttering Rating Scale score decreased from 6 to 2 (mild)
- 20th week:
 - Anxiety reduced allowing him to gradually discontinue medication but still continues to take Citalopram which reduces the core symptoms of stuttering.

Drug Trial: Risperidone and Olanzapine

- **Study** (by Gerald Maguire, M.D. and his team at the University of California)
 - Double-blind placebo-controlled study with 2 small groups that stutter
 - Risperidone: Group 16 adults
 - Olanzapine: Group 22 adults
 - Half of the subjects received a placebo and the other half received the active compound
 - Measures included:
 - Percentages of syllables stuttered and subjective scores (example: Patient's perception of speech fluency)

Drug Trial: Risperidone and Olanzapine

○ Results

- The active drug of either trial was found to be superior in reducing the percentage of syllables stuttered to the placebo
- Side effects
 - Risperidone
 - Sedation
 - Lack of menstrual periods
 - Olanzapine
 - Sedation
 - Weight gain



Pagoclone

(under development from Indevus Pharmaceuticals)

- Study (2006)
 - Double-blind randomized design/placebo-controlled
 - Over 130 adults who stutter
 - Pagoclone affected a natural neurochemical in the brain known as **GABA** (plays a significant role in stuttering)



Pagoclone

(under development from Indevus Pharmaceuticals)

○ Results

- Improved stuttering symptoms in over 50% of the individuals treated
- Showed superior improvement compared to the placebo
- Improved fluency of speech
- Reduced social anxiety
- Well tolerated with minor side effects
 - Headache
 - Fatigue



Theoretical Rationale

- Studies have shown that the use of medication is effective in reducing stuttering due to dopamine blocking medications
- Reduction of stuttering results in decreased anxiety which lessens the amount of medication needed

Style of Therapy

- Individualized based upon:
 - The medication
 - The patient's age, gender, and weight
 - The severity of stuttering
- Speech therapy should be implemented with medication

“...treatment will likely involve the combination of medication with speech therapy to achieve the optimal results.”

-Gerald Maguire, M.D.



Measurement of Success

- Measured by:
 - Reduced percentage of syllables stuttered
 - Reduction of primary and secondary stuttering behaviors
 - Reduction of social anxiety
 - Improvement of quality of life
 - Decreased severity rating



Generalization and Maintenance

- Generalization:
 - No data was presented for this approach
- Maintenance:
 - Consistently taking the prescribed medication



Strengths and Weaknesses

○ **Strengths**

- Reduction of stuttering
- Reduction of stuttering behaviors
- Reduction of social anxiety
- Minimal effort

○ **Weaknesses**

- Side effects
- Not a cure for stuttering
- Combination of medications could be fatal
- No long-term results available
- Unreliable justifications

Recommend?

We do **NOT** recommend this approach

- Lack of research on effectiveness
- Long-term side effects are unknown
- Medications are costly
- Generalization is unknown

Resources

- Bradey, J., Ali, Z. (2000). Alprazolam, Citalopram, and Clomipramine for Stuttering. Retrieved November 12, 2007 from <http://www.stutteringhelp.org/DeskLeftDefault.aspx?tabid=170>
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